

Applicant: David Haase, et al.
U.S.S.N.: 10/673,664
Filing Date: September 29, 2003
EMC Docket No.: EMC-03-100

REMARKS

The Office Action mailed August 13, 2007 has been carefully considered.

Claims 1-2, 6-9, 13-16, 20 and 21 are pending and stand rejected.

No amendments have been made to the claims.

Rejection under 35 USC 102

The Examiner has maintained the rejection of claims 1-2, 6-9, 13-16, 20 and 21 under 35 USC 102(e) as being anticipated by Young (USP no. 6,898,681). In maintaining the rejection of the claims the Examiner states that Young teaches the limitations entered into the claims in Applicant's prior response (see page 8, instant Office Action).

The Examiner more specifically refers column 10, lines 11-26 and Figures 6a and 6C in stating "restoring the source by copying data content from the clone to overwrite the data content of the source while allowing host reads and writes to the source during the restoring step (e.g., see column 10, lines 11-20, fig. 6c), said copying being determined by a clone delta map used to track extents of the clone that are different between the clone and the source (e.g., see column 10, lines 27-32), and a protected restore map, used to track extents of the source that are modified during the restoring step, when an indication is set in the clone delta map and not set in the protected restore map (e.g., see column 10, lines 24-26, Fig. 6a). Young teaches that during the recovery or restoration if the new data is to be written to a block in the master store or the source, the corresponding bit in the bitmap in the shadow store or clone is set to one." (see page 3, OA).

Applicant respectfully disagrees with and explicitly traverses the rejection of the claims.

In applicant's prior response to the rejection of the claims, claims 1, 8 and 15 were amended to recite that copying occurs when an indication is set in the clone delta map and not set in the protected restore map.

In reviewing the processing shown in Figure 6c, which is associated with "[r]ecover of a master copy from a point in time copy" (see col. 10, line 7-10), Young discloses that when there is new data to be written in the master store during the recovery process (see step S31b), a copy of that block from the subsidiary store is copied to the corresponding address in the master store (step S34b), the corresponding bit in the copy bit map is set to zero (S35b) and the old data in the master store is overwritten with the new data and the corresponding bit in the shadow bitmap is

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set to one (S36b). If a write request is not determined not to exist at step S31b, the data is copied from the subsidiary store and the corresponding bit is set to zero (S33b).

However, Young fails to condition the copying performed at step S34b based on an "indication is set in the clone delta map and not set in the protected restore map," as is recited in the claims. Rather, Young discloses that the copying in case of a write request is based on the copy bit map (clone delta map). Young fails to consider the condition of the shadow bit map in performing the processing shown.

According, based on the processing shown in figure 6c, Young fails to disclose all the elements recited in the independent claims.

With regard to the reference to Figure 6a, Young discloses that Fig. 6a shows a flow chart illustrating operations for copying data in the master store to the clone store. The processing shown in Fig. 6a is not associated with the restoration process recited in the claims. Hence, applicant believes that the a mixture of elements of the creation of a point-in-time copy and restoration from a point-in-time copy is inappropriate in rejecting the claims as the two processes are not in the same field.

Notwithstanding that the combination of the elements of the creation of a point-in-time copy and restoration from a point-in-time copy is inappropriate, applicant submits that even if these two processes were combined, Young fails to disclose the restoration of the source while allowing host reads and writes being determined when an indication is set in the clone delta map (copy bit map) and not set in the protected map (shadow bit map) as is recited in the claims.

Although it may be argued that Young discloses that copying is performed when an indication is set in the copy bit map (delta clone map) and not set in the shadow bitmap (protected restore map) because the shadow bitmap is set to zero, applicant submits that such an argument fails to consider that Young discloses setting an indicator in the shadow bit map in S38b. Hence, there arises a condition in which a copy is to be made but the shadow bit map (protected bit map) includes an indication that is set and Young fails to consider this condition.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference.

Young cannot be said to anticipate the subject matter recited in the independent claims as Young fails to recite all the elements recited therein.

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At least for this reason, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn and the claims allowed.

With regard to the remaining claims, these claims depend from the independent claims and are also allowable by virtue of their dependency upon an allowable base claim.

For the amendments made to the claims and the remarks made herein, applicant submits that the reason for *the rejections of all the claims have been overcome* and respectfully requests that the rejections be withdrawn and the claims be allowed.

In view of the foregoing, the applicant believes that the application is in condition for allowance and respectfully request favorable reconsideration.

A Power of Attorney is submitted herewith, to allow the attorneys associated with customer number 73901 to represent the applicant in further prosecution of this matter before the Office. Entry of the new Power of Attorney is respectfully requested.

EMC Corporation is the Owner of Record as evidenced by the Assignment of all rights and title in the instant application by the named inventors as recorded at reel/frame 014962/0876.

No fees are believed necessary for filing this paper. However, if any fees are deemed necessary, the Examiner is authorized to charge such fees to deposit account 50-4414.

In the event the Examiner deems personal contact desirable in the disposition of this case, the Examiner is invited to call the undersigned attorney the telephone stated below.

Respectfully submitted,



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Dated: November 13, 2007

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Kindly provide all written communications to:

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